

**Figure 1A**  
**Neutrokinin-**

1	AAATTCAAGGATAACTCTCCAGGGGTGAGCCAAGCCCTGCCATGTAGTGCACGCAGGAC	60
61	ATCAACAAACACAGATAACAGGAATGATCCATTCCCTGIGGTCACTTATTCCTAAAGGCC	120
121	CCAACCTCAAAGTTCAAGTAGTAGTATGGATGACTCCACAGAAAGGGAGCAGTCACGCC	180
1	M D D S T E R E Q S R L	12
181	TTACTCTTGCCCTTAAGAAAAGAGAAGAAATGAAACTGAAGGAGTGTGTTCCATCCCTCC	240
13	T S C L K K R E E M K L K E C V S I L P	32
	CD-I	
241	CACGGAAGGAAAGCCCCCTGTCCGATCCTCAAAGACGAAAGCTGCTGGCTGCAACCT	300
33	R K E S P S V R S S K D G K L L A A T L	52
	CD-I	
301	TGCTGCTGGCACTGCTGTCTGCTGCCTCACGGTGGTGTCTTCTACCAGGTGGCCGCC	360
53	L L A L L S C C L T V V S F Y Q V A A L	72
361	TGCAAGGGGACCTGGCCAGCCTCCGGCAGAGCTGCAGGCCACCACGCCAGGAGAAGCTGC	420
73	Q G D L A S L R A E L Q G H H A E K L P	92
	CD-II	
421	CAGCAGGAGCAGGAGCCCCAAGGCCGGCTGGAGGAAGCTCCAGCTGTCACCGCAGGAC	480
93	A G A G A P K A G L E E A P A V T A G L	112
	CD-III	
481	TGAAAATCTTGAAACCACAGCTCCAGGAGAAGGCAACTCCAGTCAGAACAGCAGAAATA	540
113	K I F E P P A P G E G N S S Q N S R N K	132
541	AGCGTGCCGTTCAAGGTCCAGAAGAAACAGTCACTCAAGACTGCTGCAACTGATTGCAG	600
133	R A V Q G P E E T V T Q D C L Q L I A D	152
	CD-IV	
601	ACAGTGAAACACCAACTATACAAAAGGATCTTACACATTGTTCCATGGCTCTCAGCT	660
153	S E T P T I Q K G S Y T F V P W L L S F	172
	CD-V	
661	TTAAAAGGGAAAGTGCCTAGAAGAAAAAGAGAATAAAATATTGGTCAAAGAAACTGGTT	720
173	K R G S A L E E K E N K I L V K E T G Y	192
	CD-V	CD-VI
721	ACTTTTTATATATGGTCAGGTTTATATACTGATAAGACCTACGCCATGGACATCTAA	780
193	F F I Y G Q V L Y T D K T Y A M G H L I	212
	CD-VI	CD-VII
781	TTCAGAGGAAGAAGGTCCATGCTTGGGATGAATTGAGTCTGGTACTTTGTTGAT	840
213	Q R K K V H V F G D E L S L V T L F R C	232
	CD-VII	CD-VIII
841	GTATTCAAAATATGCCTGAAACACTACCCAATAATTCTGCTATTCAAGCTGGCATTGCAA	900
233	I Q N M P E T L P N N S C Y S A G I A K	252
	CD-VIII	CD-IX

**Figure 1B**  
**Neutrokinin-α**

901 AACTGGAAAGAAGGAGATGAACCTCCAAC TTGCAATACCAAGAGAAAATGCACAAATATCAC 960  
253 L E E G D E L Q L A I P R E N A Q I S L 272  
CD-X

961 TGGATGGAGATGTACATTTTGGTGCATGAAACTGCTGTGACCTACTTACACCATGT 1020  
273 D G D V T F F G A L K L L 285  
CD-XI

1021 CTGTAGCTATTTCTCCCITTCTCTG TACCTCTAAGAAGAAAATCTAACTGAAAATA 1080

1081 CCAAAAAAAAAAAAAAAA 1100

FIGURE 2A

10	20	30	
1 M S T E S M I R D V E L		- - - - - A E E A	TNFalpha
1 M - - - - - - - - - - - - - - - T P P E R L			TNFbeta
1 M G A - - - - - - - - - - - - - - -			LTbeta
1 M Q Q P F N Y P Y P Q I Y W - V D S S A S S P W A P P G T V			FasLigand
1 M D D S T E R E Q S R L T S C L K K R E E M K L	K E C V S I		Neutrokinne alpha
1 M D D S T E R E Q S R L T S C L K K R E E M K L	K E C V S I		Neutrokinne alphaSV
40	50	60	
17 L P K K T G G P Q - - G S R R - - - - - - - - -			TNFalpha
8 F - - - - - - - - - - - - - - -			TNFbeta
4 - - - L G L E G R G G - - - - - - - - -			LTbeta
30 L P C P T S V P R R P G Q R R P P P P P P P P P P P L P P P P P			FasLigand
31 L P R K E S P S V R S S K D - - G K L L A A T L L L A L L			Neutrokinne alpha
31 L P R K E S P S V R S S K D - - G K L L A A T L L L A L L			Neutrokinne alphaSV
70	80	90	
30 - - - - - - - - - - - - - - - C L F L S L F S			TNFalpha
9 - - - - - L P R V R G T T L H L L L G L L L V L L P			TNFbeta
12 - - - - - R L Q G R G S L L L A V A G A T S L V T			LTbeta
60 P P P P L P P L P L P P L K K R G N H S T G L C L L V M F F M			FasLigand
58 S C C L T V V S F Y Q V A A L Q G D L A S L R A E L Q G H H			Neutrokinne alpha
58 S C C L T V V S F Y Q V A A L Q G D L A S L R A E L Q G H H			Neutrokinne alphaSV
100	110	120	
38 F L - - I V A G A T T L F C L L H F G V I G P Q R E E F P R			TNFalpha
31 G A Q G L P G V G L - - - - - - - - -			TNFbeta
32 L L L A V P I T V L A V L A L V P Q D Q G G L V T E T A D P			LTbeta
90 V L V A L V G L G L G M F Q L F H L Q K E L A E L R E S T S			FasLigand
88 A E K L P A G A G A P K A G L E E A P A V T A G L K I F E P			Neutrokinne alpha
88 A E K L P A G A G A P K A G L E E A P A V T A G L K I F E P			Neutrokinne alphaSV
130	140	150	
66 D L S L I S - P L A - Q A V R S S S R T P S D - - - K P V A			TNFalpha
41 - - - T P S - A A Q - T A R Q H P K M H L A H S T L K P A A			TNFbeta
62 G A Q A Q Q - G L G F Q K L P E E E P E T D L S P G L P A A			LTbeta
120 Q M H T A S - S L E - K Q I G H P S P P P E K K E L R K V A			FasLigand
118 P A P G E G N S S Q N S R N K R A V Q G P E E T V T Q D C L			Neutrokinne alpha
118 P A P G E G N S S Q N S R N K R A V Q G P E E T - - - - -			Neutrokinne alphaSV
160	170	180	
91 H V V A N P Q A E G - Q - - - - L Q W L N R R A N A L L			TNFalpha
66 H L I G D P S K Q N - S - - - - L L W R A N T D R A F L			TNFbeta
91 H L I G A P L K - G Q G - - - - L G W E T T K E Q A F L			LTbeta
148 H L T G K S N S R S M P - - - - L E W E D T Y G I V L L			FasLigand
148 Q L I A D S E T P T I Q K G S Y T F V P W L - - - - L S F K			Neutrokinne alpha
142 - - - - - - - - - G S Y T F V P W L - - - - L S F K			Neutrokinne alphaSV

FIGURE 2B

	190	200	210	
114	A N G V E L R D N - Q L V V P S E G L Y L I Y S Q V L F K G			TNFalpha
89	Q D G F S L S N N - S L L V P T S G I Y F V Y S Q V V F S G			TNFbeta
114	T S G T Q F S D A E G L A L P Q D G L Y Y L Y C L V G Y R G			Ltbeta
172	- S G V K Y K K G - G L V I N E T G L Y F V Y S K V Y F R G			FasLigand
174	R G S A L E E K E N K I L V K E T G Y F F I I Y G Q V L Y T D			Neutrokinne alpha
155	R G S A L E E K E N K I L V K E T G Y F F I I Y G Q V L Y T D			Neutrokinne alphaSV
	220	230	240	
143	Q G C P - - - - S T H V L L T H T I S R I A V S Y Q T K			TNFalpha
118	K A Y S P - - K A T S S P L Y L A H E V Q L F S S Q Y P F H			TNFbeta
144	R A P P G G D P Q G R S V T L R S S L Y R A G G A Y G P G			Ltbeta
200	Q S C N - - - - N L P L S H K V Y M R N S K Y P Q D			FasLigand
204	K T Y A M G - - - - H L I Q R K K V H V F G D E L S - -			Neutrokinne alpha
185	K T Y A M G - - - - H L I Q R K K V H V F G D E L S - -			Neutrokinne alphaSV
	250	260	270	
167	V N - - L L S A I K S P C Q R E T P E - - G A E A K P W Y E			TNFalpha
146	V P - - L L S S Q K M V Y P - - - - G L Q E P W L H			TNFbeta
174	T P E L L E G A E T V T P V L D P A R R Q G Y G P L W Y T			Ltbeta
222	L V - - M M E G K M M S Y C - - - - T T G Q M W A R			FasLigand
226	L V T L F R C I Q N M P E T L P N - - - - - - N			Neutrokinne alpha
207	L V T L F R C I Q N M P E T L P N - - - - - - N			Neutrokinne alphaSV
	280	290	300	
193	P I Y L G G V F Q L E K G D R L S A E I N R P D Y L D F A E			TNFalpha
166	S M Y H G A A F Q L T Q G D Q L S T H T D G I P H L V L S P			TNFbeta
204	S V G F G G L V Q L R R G E R V Y V N I S H P D M V D F A R			Ltbeta
242	S S Y L G A V F N L T S A D H L Y V N V S E L S L V N F E E			FasLigand
244	S C Y S A G I A K L E E G D E L Q L A I P R E N A Q I S L D			Neutrokinne alpha
225	S C Y S A G I A K L E E G D E L Q L A I P R E N A Q I S L D			Neutrokinne alphaSV
	310			
223	S G Q V Y F G I I A L			TNFalpha
196	S - T V F F G A F A L			TNFbeta
234	- G K T F F G A V M V G			Ltbeta
272	S - Q T F F G L Y K L			FasLigand
274	G D V T F F G A L K L L			Neutrokinne alpha
255	G D V T F F G A L K L L			Neutrokinne alphaSV

**Figure 3**  
**Neutrokinin-α**

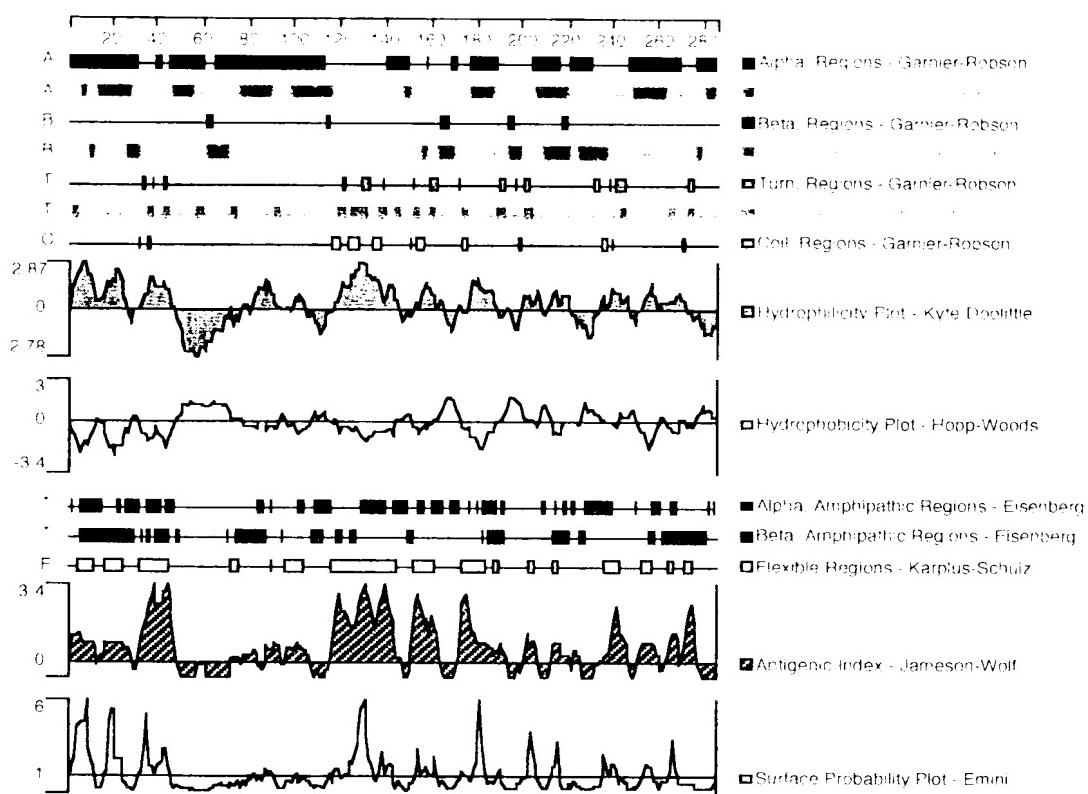


FIGURE 4 A

**FIGURE 4B**

FIGURE 4C

	801		850		
HSOAD55R	.....	.....	.....		
HNEDU15X	GTCCATGTCT	TTGGGGATGA	ATTGAGTC TG	GTGACTTTGT	TTCGATGTAT
HSLAH84R	.....	.....	.....	.....	.....
HLTBM08R	.....	.....	.....	.....	.....
	851		900		
HSOAD55R	.....	.....	.....	.....	.....
HNEDU15X	TCAAAATATG	CCTGAAACAC	TACCCAATAA	TTCCTGCTAT	TCAGCTGGCA
HSLAH84R	.....	.....	.....	.....	.....
HLTBM08R	.....	.....	.....	.....	.....
	901		950		
HSOAD55R	.....	.....	.....	.....	.....
HNEDU15X	TTGCAAAACT	GGAAGAAGGA	GATGAAC TCC	AACTTGCAAT	ACCAAGAGAA
HSLAH84R	.....	.....	.....	.....	.....
HLTBM08R	.....	.....	.....	.....	.....
	951		1000		
HSOAD55R	.....	.....	.....	.....	.....
HNEDU15X	AATGCACAAA	TATCACTGGA	TGGAGATGTC	ACATTTTG	GTGCATTGAA
HSLAH84R	.....	.....	.....	.....	.....
HLTBM08R	.....	.....	.....	.....	.....
	1001		1050		
HSOAD55R	.....	.....	.....	.....	.....
HNEDU15X	ACTGCTGTGA	CCTACTTACA	CCATGTCTGT	AGCTATTTTC	CTCCCTTTCT
HSLAH84R	.....	.....	.....	.....	.....
HLTBM08R	.....	.....	.....	.....	.....
	1051		1100		
HSOAD55R	.....	.....	.....	.....	.....
HNEDU15X	CTGTACCTCT	AAGAAGAAAG	AATCTAACTG	AAAATACCAA	AAAAAAAAAA
HSLAH84R	.....	.....	.....	.....	.....
HLTBM08R	.....	.....	.....	.....	.....
	1101				
HSOAD55R	.....				
HNEDU15X	AAAAAA				
HSLAH84R	.....				
HLTBM08R	.....				

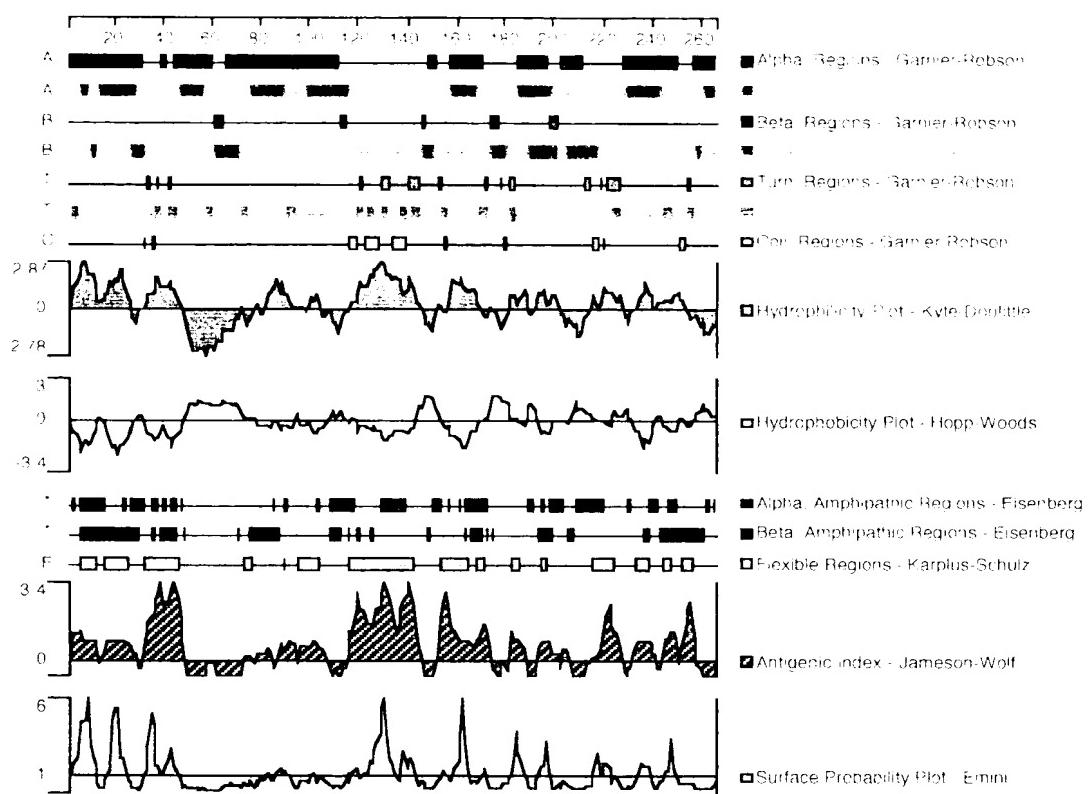
**Figure 5A**  
**Neutrokinin-SV**

1	ATGGATGACTCCACAGAAACGGAGCAGTCACGCCCTACTCTTGCC	TAAGAAAAAGAGAA	60
1	M D D S T E R E Q S R L T S C L K K R E		20
61	GAAATGAAACTGAAGGAGTGTGTTCCATCCTCCCACGGAAGGAAAGGCC	CCTGTGCCGA	120
21	E M K L K E C V S I L P R K E S P S V R		40
		CD-I	
121	TCCCTCAAAGACGGAAAGCTGCTGGCTGCAACCTTGCTGCTGGCACTGCTGTCTTGC	GC	180
41	S S K D G K L L A A T L I L A L L S C C		60
	CD-I		
181	CTCACGGTGGTGTCTTCTACCAGGTGGCCCGCCCTGC	AAGGGGACCTGGCCAGCCTCCGG	240
61	L T V V S F Y Q V A A L Q G D L A S L R		80
	CD-II		
241	GCAGAGCTGCAGGGCCACCACCGGGAGAACGCTGCCAGCAGGAGCAGGAGCCCCAAGGCC		300
81	A E L Q G H H A E K L P A G A G A P K A		100
	CD-II		
301	GGCCTGGAGGAAGCTCCAGCTGTCAACCGGGACTGAAAATCTTGAAACCACAGCTCCA		360
101	G L E E A P A V T A G L K I F E P P A P		120
	CD-III		
361	GGAGAAGGCAACTCCAGTCAGAACAGCAGAAATAAGCGTGCCTCAGGGTCCAGAAGAA		420
121	G E G N S S Q N S R N K R A V Q G P E E		140
	#		
421	ACAGGATCTTACACATTGTTCCATGGCTCTCAGCTTAAAGGGGAAGTGCCTAGAA		480
141	T G S Y T F V P W L L S F K R G S A L E		160
	CD-IV		
481	GAAAAAGAGAATAAAATATTGGTCAAAGAAACTGGTACTTTTTATATGGTCAGGTT		540
161	E K E N K I L V K E T G Y F F I Y G O V		180
	CD-V		
541	TTATATACTGATAAGACCTACGCCATGGACATCTAATTCAAGAGGAAGGTCCATGTC		600
181	L Y T D K T Y A M G H L I Q R K K V H V		200
	CD-VI	CD-VII	
601	TTGGGGATGAATTGAGTCTGGACTTTGTTCTGAIGTATTCAAAATATGCCTGAAACA		660
201	E G D E L S L V T L F R C I Q N M P E T		220
	CD-VIII	CD-VIII	
661	CTACCCAATAATTCTGCTATTCAAGCTGGCATTGCAAAACTGGAAGAAGGAGATGAAC		720
221	L P N N S C Y S A G I A K L E E G D E L		240
	CD-IX	CD-X	
721	CAACTTGCAATACCAAGAGAAAATGCACAAATATCACTGGATGGAGATGTCACATT	TT	780
241	Q L A I P R E N A Q I S L D G D V T F F		260
	CD-X	CD-XI	
781	GGTGCATTGAAACTGCTGTGACCTACTTACACCATGTCTGTAGCTATTCTCCCTTC		840
261	G A L K L L		266
	CD-XI		

**Figure 5B**  
**Neurokinin- $\alpha$ -SV**

841 TCGTGACCTGTAAGAAGAAGAACTAACTGAAAAATACCAAAAAAAAAA 900  
901 AAA 903

**Figure 6**  
**Neurokinin- $\alpha$ -SV**



**Figure 7**

**a.**

**leutrokine-**

**alpha** M D D S T E R F Q S R L T S C L K K R E E M K L K E C V S I L P R K E S P S V R S 41

**Transmembrane Region**

↓

S	K	D	G	K	L	L	A	A	T	L	L	A	L	S	C	C	L	T	V	V	S	F	Y	Q	V	A	A	L	Q	G	D	L	A	S	L	R	A	E
S	K	D	G	K	L	L	A	A	T	L	L	A	L	S	C	C	L	T	V	V	S	F	Y	Q	V	A	A	L	Q	G	D	L	A	S	L	R	A	E

**A**

N S S Q N S R N K R A V Q G P E E T V T Q D C L Q L I A D S E T P T I Q K G S Y T 164  
**April** H S V L H L V P I N A T S K - D D S D V T 134  
**TNF** K P V A H V V A N P Q A E G Q - - - - - 102  
**LT "** K P A A H L I G D P S K Q N S - - - - - 77

**A'**      **B'**      **B**      **C**

F V P W L L S - - - - - F K R G S A L E E K E N K I L V K E T G Y F F I Y G Q V L 200  
 E V M W Q P A - - - - - L R R G R G L Q A Q G Y G V R I Q D A G V Y L L Y S Q V L 170  
 - L Q W L N R R A N A L L A N G V E L R D - - N Q L V V P S E G L Y L I Y S Q V L 139  
 - L L W R A N T D R A F L Q D G F S L S N - - N S L L V P T S G I Y F V Y S Q V V 114

**D**

Y T D K T Y - - - - - A M G H L I Q R K K V H V F G D E L S L V T L F R C I Q N M P 237  
 F Q D V T F - - - - - T M G Q V V S R E - - - - - G Q G R Q E T L F R C I R S M P 201  
 F K G Q G C P - - - - S T H V L L T H T I S R I A V S Y Q T K V N L L S A I K S P 176  
 F S G K A Y S P K A T S S P L Y L A H E V Q L F S S Q Y P F H V P L L S S Q K M V 155

**E**

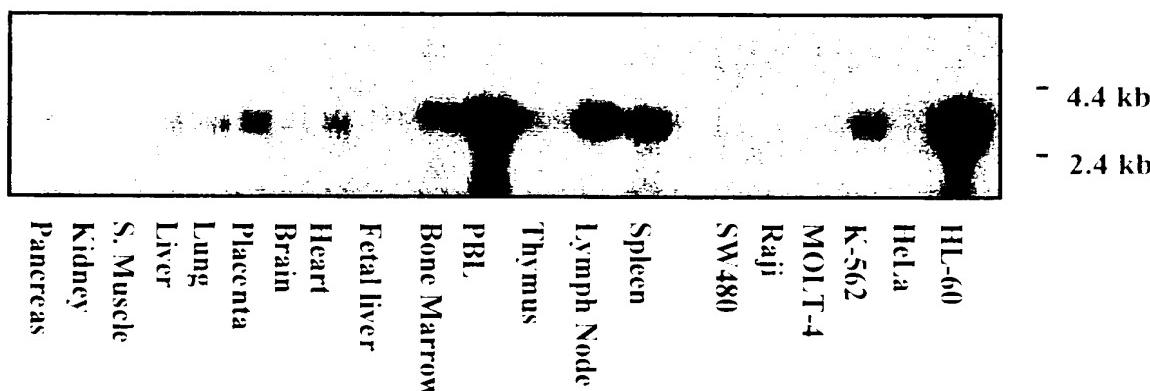
E - - T L P - - - - - N N S C Y S A G I A K L E E G D E L Q L A I P R E N A 268  
 S H P D R A - - - - - Y N S C Y S A G V F H L H Q G D I L S V I I P R A R A 234  
 C Q R E T P E G A E A K P W Y E P I Y L G G V F Q L E K G D R L S A E I N R P D Y 217  
 Y P - - - - - G L Q E P W L H S M Y H G A A F Q L T Q G D Q L S T H T D G I P H 190

**F**

Q I S L D G D V T F F G A L K L L 285  
 K L N L S P H G T F L G F V K L 250  
 L D F A E S G Q V Y F G I I A L 233  
 L V L S - P S T V F F G A F A L 205

**G**

**b.**

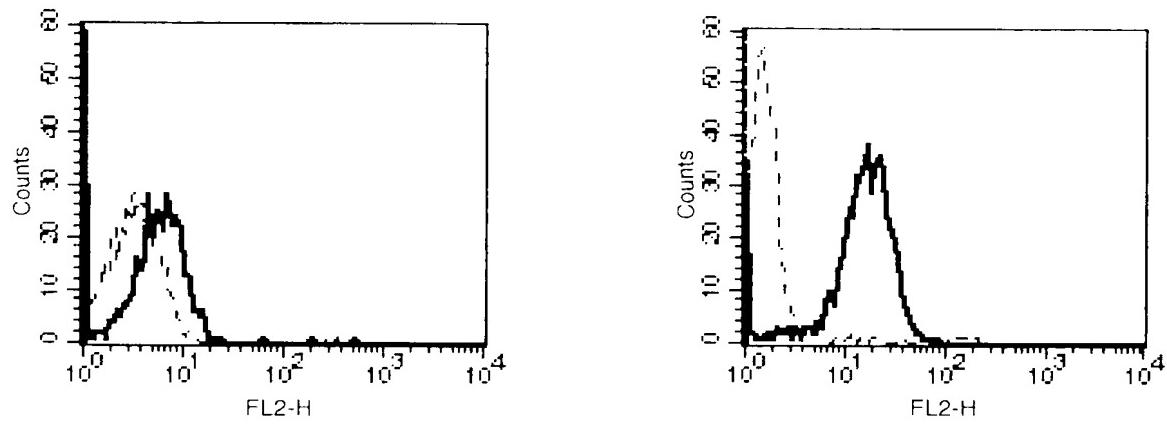


**Figure 8**

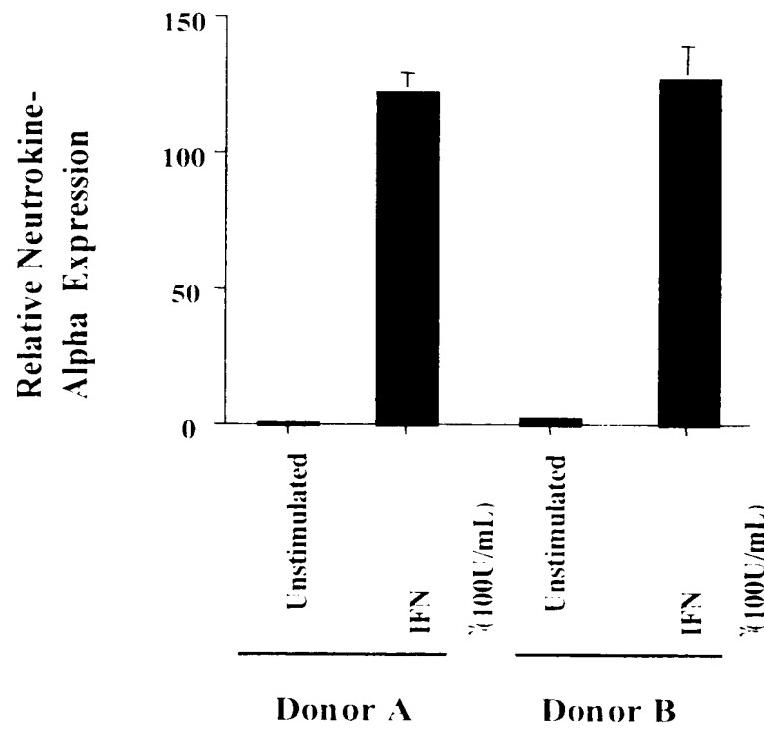
**a.**

**Medium only**

**IFN $\gamma$  (100 U/mL)**

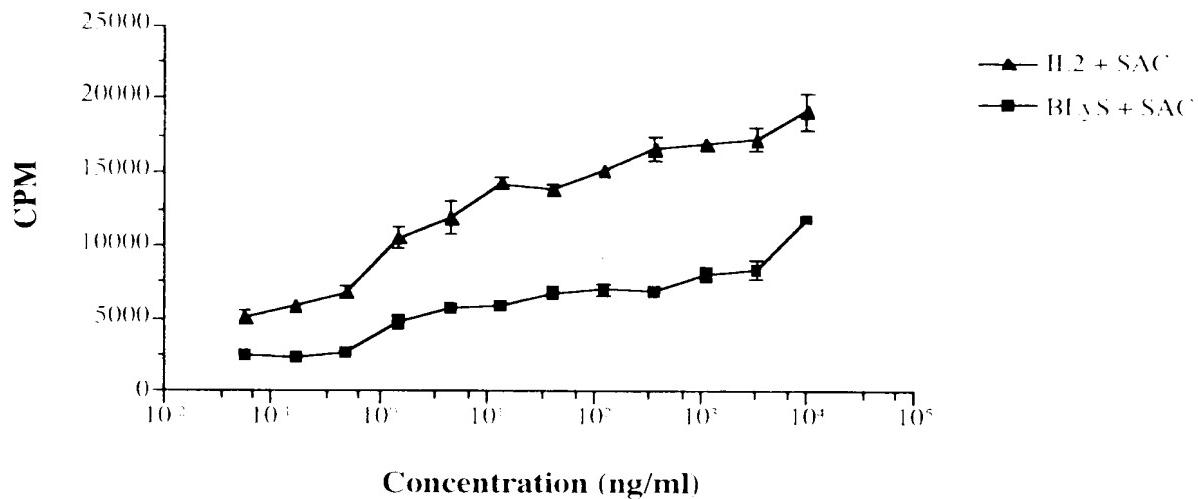


**b.**

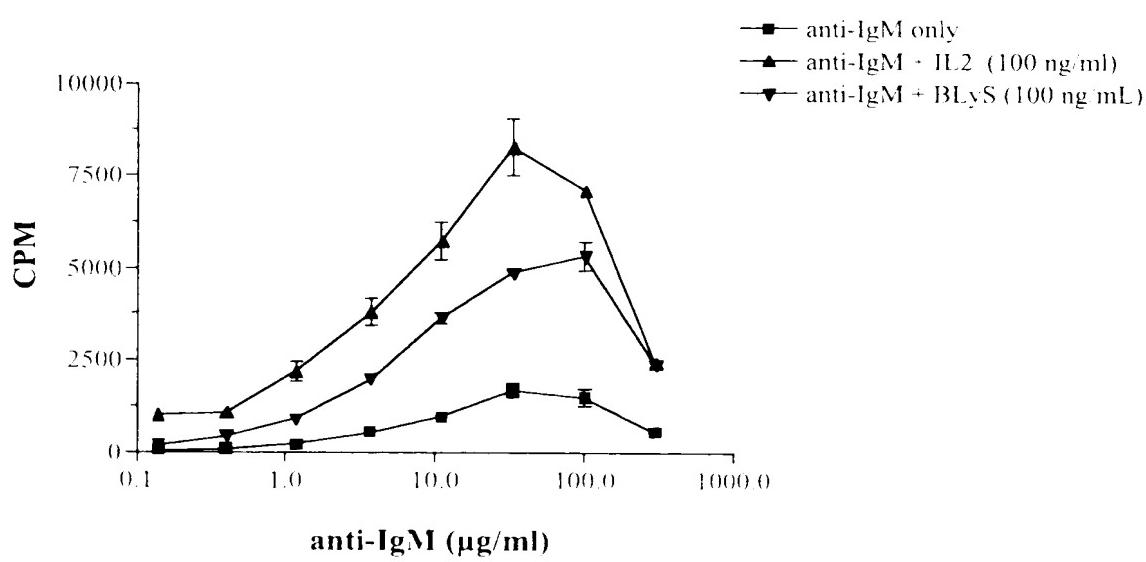


**Figure 9**

**a.**



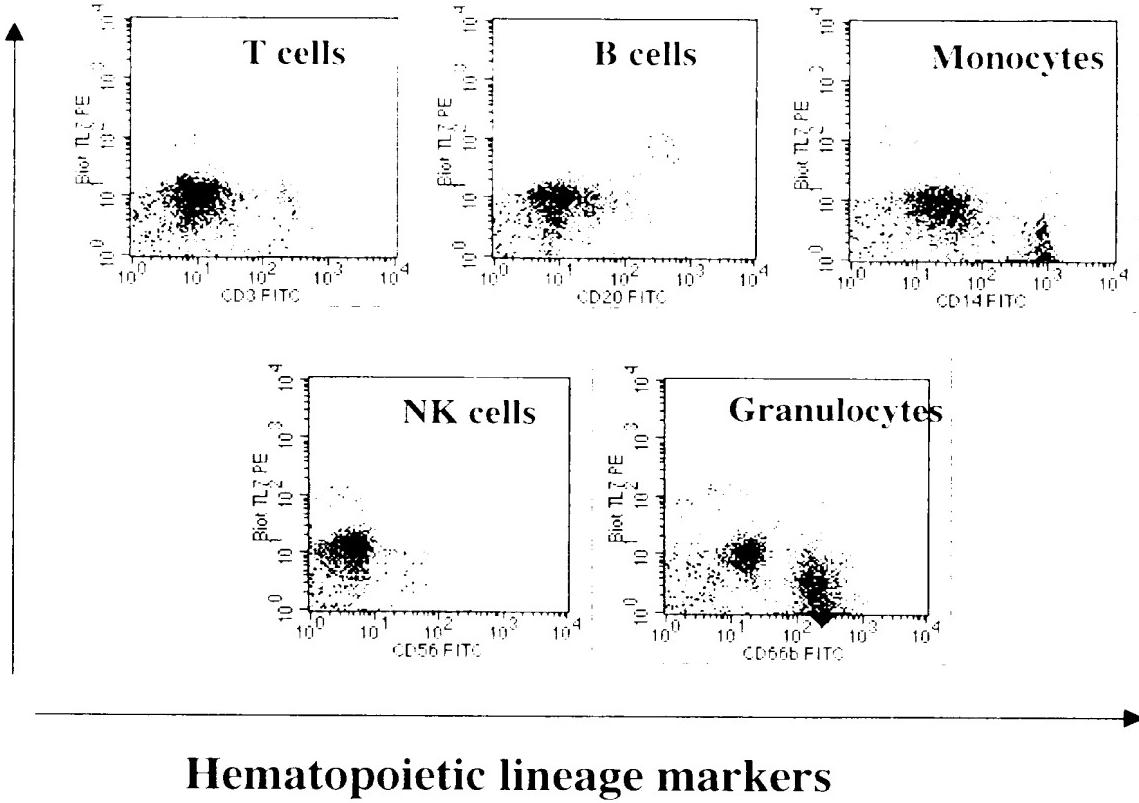
**b.**



**Figure 10**

Biotinylated Neutrokinine  
alpha binding

a.

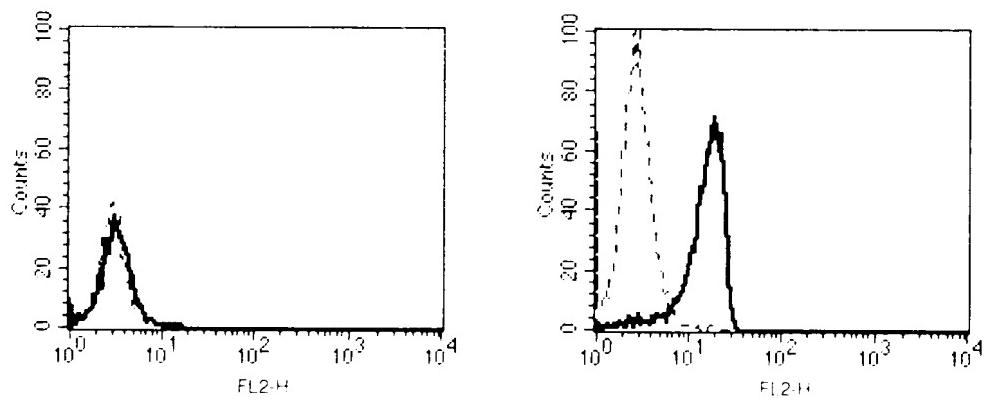


Hematopoietic lineage markers

b.

U-937

IM-9



**Figure 11**

